AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (currently amended): A method of testing a
2 firewall comprising:
3   transmitting at least one of a session initiation
4 signal to initiate a communications session through said
5 firewall and a session termination signal used to
6 ~~termination~~ terminate an established communications
7 session; and
8   monitoring to determine from the time of at least one
9 transmitted signal at least one of a port opening delay
10 which occurs in regard to opening a port in said firewall
11 for a communications session that is being initiated and a
12 port closing delay which occurs in regard to closing a port
13 in said firewall when terminating an established
14 communications session.

1 Claim 2 (original): The method of claim 1, further
2 comprising:
3   transmitting session signals at an increasing rate
4 through said firewall to cause at least one of the opening
5 and closing of ports in said firewall; and
6   measuring the effect of said increasing rate of
7 session signals on at least one of an opening and a closing
8 delay time associated with opening a port and closing a
9 port, respectively, in response to transmitted session
10 signals.

1 Claim 3 (original): The method according to claim 1,

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2   wherein said at least one of a port opening delay and a

3   port closing delay is a port closing delay.

1   Claim 4 (original): The method of claim 3, further

2   comprising:

3   transmitting session signals at an increasing rate

4   through said firewall to cause at least one of the opening

5   and closing of ports in said firewall; and

6   measuring the effect of said increasing rate of

7   session signals on at least one of an opening and a closing

8   delay time associated with opening a port and closing a

9   port, respectively, in response to said session signals.

1   Claim 5 (original): The method of claim 4, further

2   comprising:

3   determining an average closing delay for each of a

4   plurality of different session signaling rates.

1   Claim 6 (original): The method of claim 5, further

2   comprising:

3   generating a visual display of a graph illustrating

4   the average closing delay for a plurality of different

5   session signaling rates.

1   Claim 7 (original): A method of testing a network firewall

2   comprising:

3   transmitting a session signal to terminate an ongoing

4   communications session being conducted through at least one

5   port of said firewall; and

6   measuring a port closing delay time associated with

7   the closing of said at least one port following the

8   transmission of said signal to terminate said

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9 communications session.

1 Claim 8 (original): The method of claim 7, wherein said
2 port closing delay is a time period which occurs between
3 the time a signal used to cause the closing of the port is
4 detected and said port ceases to allow communications
5 signals to pass through from the first side of said
6 firewall to the second side of said firewall.

1 Claim 9 (original): The method according to claim 8,
2 further comprising the steps of:
3   transmitting test signals at said port prior to the
4 closing of said port; and
5   monitoring the port to determine when said test
6 signals cease passing through said port.

1 Claim 10 (original): The method of claim 7, further
2 comprising:
3   repeating said initiating transmitting and measuring
4 steps while increasing a rate of session signals sent to
5 said firewall to load said firewall; and
6   monitoring changes in port closing delay times in
7 response to said increasing rate of session signals to
8 determine effect of increasing levels of session signaling
9 on closing delay times.

1 Claim 11 (original): The method of claim 10, further
2 comprising:
3   determining the level of session signaling that causes
4 a closing delay time which exceeds a preselected maximum
5 closing delay time.

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1   Claim 12 (original): The method of claim 10, further
2   comprising:
3   determining the amount of firewall processing power
4   required for a particular application based on an expected
5   traffic load and said monitored information indicating the
6   effect of session signaling of different loads on said
7   closing delay.

1   Claim 13 (original): The method of claim 7, wherein said
2   session signal is at least one of SIP and H.323 compliant
3   signals.

1   Claim 14 (original): A method of testing a network
2   firewall, comprising:
3   transmitting a session signal to initiate a
4   communications session to be conducted through said
5   firewall;
6   transmitting test signals to at least one port on a
7   first side of said firewall;
8   determining a time when said test signals first pass
9   through said at least one port, said at least one port
10 being opened in response to said signal to initiate a
11 communications session; and
12   determining a port opening delay which occurs in
13 regard to opening a port in said firewall for said
14 communications session from said determined time.

1   Claim 15 (original): The method of claim 14, wherein said
2   port opening delay is a time period which occurs between a
3   time a signal used to cause the port for said
4   communications session to open is detected and said port
5   allows a signal to pass through from the first side of said

5

6   firewall to the second side of said firewall.

1   Claim 16 (original): The method according to claim 15,
2   further comprising the step of:
3   transmitting another session signal to terminate said
4   communications session; and
5   monitoring a port closing delay time corresponding to
6   a port closing delay which occurs in regard to closing the
7   port in said firewall that was opened for said
8   communications session.

1   Claim 17 (original): The method of claim 16, wherein said
2   port closing delay is a time period which occurs between
3   the time a signal used to cause the closing of the port is
4   detected and said port ceases to allow communications
5   signals to pass through from the first side of said
6   firewall to the second side of said firewall.

1   Claim 18 (original): The method of claim 14, further
2   comprising the steps of:
3   transmitting session signals at an increasing rate
4   through said firewall to cause at least one of the opening
5   and closing of ports in said firewall; and
6   measuring the effect of said increasing rate of
7   session signals on at least one of an opening and closing
8   delay time associated with opening and closing ports,
9   respectively, in response to said session signals.

1   Claim 19 (original): The method of claim 18, wherein said
2   session signals are at least one of SIP and H.323 compliant
3   signals.

1   Claim 20 (original): A firewall test apparatus,

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2 comprising:

3   a session signaling module for generating session

4 signals used to initiate a communications session to be

5 conducted through a firewall to be tested and to terminate

6 a communications session after it has been initiated;

7   a scanning probe generation module for generating

8 probe signals to be directed at firewall ports;

9   a timing synchronization module for synchronizing

10 operation of said firewall test apparatus to at least one

11 of an external clock source and another firewall test

12 apparatus; and

13   an analysis module for determining at least a port

14 closing delay from a session signal time and a time probe

15 signals are detected to stop passing through a port in said

16 firewall corresponding to an initiated communications

17 session.

1 Claim 21 (original): The firewall test apparatus of claim

2 20, wherein said analysis module further includes means for

3 determining at least a port opening delay from a session

4 signal time associated with a session signal used to

5 initiate a communications session and a time probe signals

6 are detected to start passing through a port in said

7 firewall corresponding to the initiated communications

8 session.

1 Claim 22 (original): The firewall test apparatus of claim

2 21, wherein said session signaling module includes means

3 for flooding said firewall with increasing amounts of

4 session signal traffic used to initiate and terminate

5 communications sessions.

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1   Claim 23 (original): The firewall test apparatus of claim

2   22, wherein said analysis module includes:

3   means for determining the effect of increasing amount

4   of session signaling flooding said firewall on the closing

5   delays associated with terminating existing communications

6   sessions.

1   Claim 24 (original): The firewall test apparatus of claim

2   23, further comprising:

3   an output device for outputting a report showing the

4   effect of flooding said firewall with increasing amounts of

5   session signals on the closing delays associated with

6   terminating existing communications sessions.

1   Claim 25 (original): A firewall test system for testing a

2   firewall, comprising;

3   a test signal generator for generating communications

4   session initiation signals and probe signals directed at a

5   first side of said firewall; and

6   a test signal analyzer for detecting probe signals

7   passing through said first side of said firewall to said

8   second side of said firewall and for determining port

9   closing delays as measured from the time the test signal

10   analyzer detects a signal used to close a port in said

11   firewall and said analyzer ceases to detect test signals

12   passing through said firewall.

1   Claim 26 (original): The firewall test system of claim 25,

2   wherein said test signal generator further includes:

3   means for establishing a communications session

4   through said firewall using session initiation signals

5   prior to transmitting at least some of said probe signals.

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Claim 27 (original): The firewall test system of claim 26, wherein said test signal generator includes means for synchronizing test signal generation to an outside clock source; and

wherein said signal analyzer includes means for synchronizing device operation with said outside clock source.

Claim 28 (original): The firewall test system of claim 27, wherein said test signal generator includes means for flooding said firewall with session signals which trigger the opening or the closing of ports in said firewall.

Claim 29 (original): The firewall test system of claim 28, wherein said test analyzer further includes:

means for measuring the effect of increasing the rate of session signals on port closing times following the termination of a communications session.

Claim 30 (original): A method of testing a firewall, comprising the steps of:

transmitting session signals used to control at least one of the establishment and termination of communications sessions through said firewall at an increasing rate; and

measuring the effect of the increasing rate of session signals on port closing delays associated with the termination of communications sessions through said firewall.

Claim 31 (original): The method of claim 30, further comprising;

determining the session signal rate which results in a maximum acceptable port closing delay being exceeded.

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1   Claim 32 (original): The method of claim 31, wherein
2   said transmitted session signals are at least one of SIP
3   signals and H.323 signals.

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